Nuclear Investment

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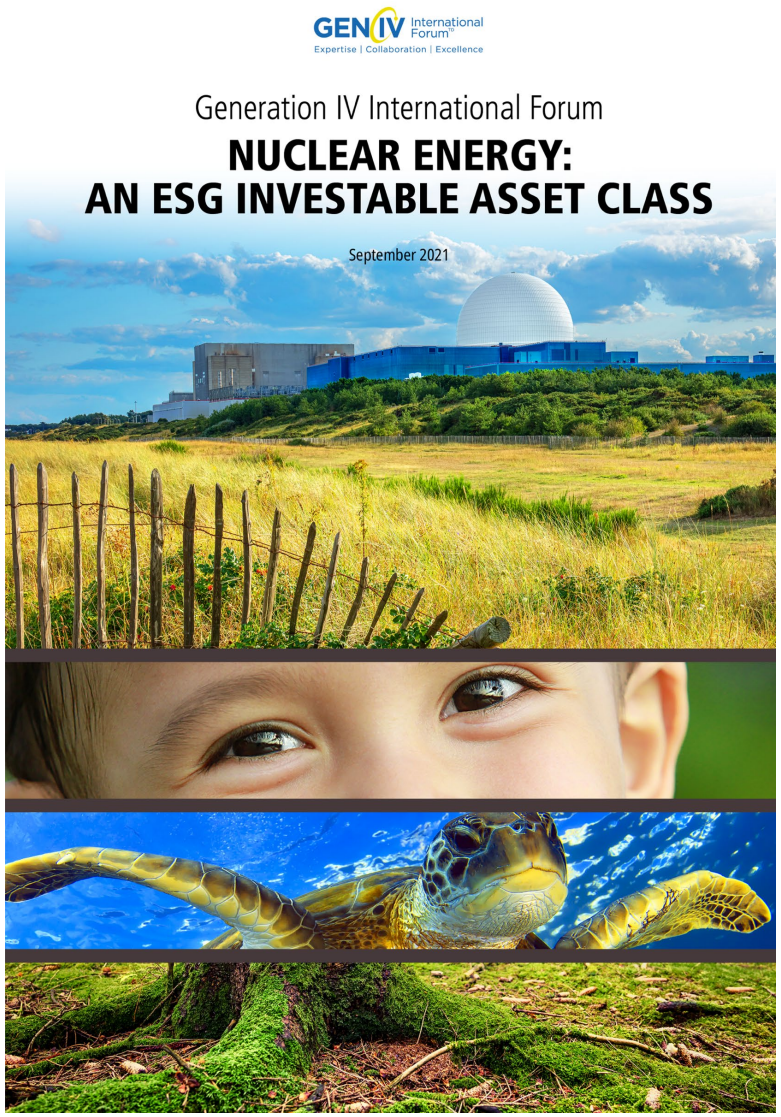
Overview of Previous and Ongoing Work Around Expert Groups on Nuclear Financing



Governance:	Planet:	People:	Prosperity:
• **Governing purpose**; • Quality of governing body • Stakeholder engagement • Ethical behaviour • Risk and opportunity oversight.	• Climate Change • Nature loss • Fresh water • Pollution • Waste • Resources.	• Dignity and equality • Health and well-being including health & safety • Skills for the future	• Wealth creation • Energy affordability • End-use efficiency • Grid resiliency • Innovation • Community and social vitality

https://www.gen-4.org/gif/jcms/c_179264/nuclear-energy-an-esg-investable-asset-class

Department for Business, Energy & Industrial Strategy

Key Recommendation	HMG should help to de-risk (perceived and real risks) the nuclear market in order to enable the private sector to develop and finance projects
General	1. Enable small reactors through clear policy and market framework 2. Work with stakeholders to develop a common understanding of risks, removing perceptions and thereby barriers to investment

Technology Development

3. Focus resources on bringing FOAK to market; only provide support and grants to enhance capabilities or in exchange for IP

Manufacturing Capability

4. Establish an advanced manufacturing supply chain initiative to bring forward manufacturing capability and challenge the market on costs and risks

NPP Development

5. Optimised and flexible regulatory processes
6. Make sites available & maintain SLC capability
7. Focus resources on bringing FOAK to market by reducing CoC and sharing risks

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/732220/DBEIS_11_-_Market_Framework_for_Financing_Small_Nuclear_EFWG_Final_Report_.pdf

Governing Purposes in the Energy Sector

Companies	Role
Capital Project Development Company	• owner of the plant • long-term project to build or develop a capital asset • a capital project is a huge project that costs a lot of money, lasts a long time, and is generally extremely complex • Revenue repays debt and equity
Technology Company	The company with responsibility for developing a technology, building prototypes
Manufacturing Company	The company or companies with responsibility for manufacturing components, modules and/or reactors
Operating Company	Any person, organisation or government entity licensed to undertake the operation of a nuclear facility. Note this may not be the same as the Operator as established by the Liability Conventions.

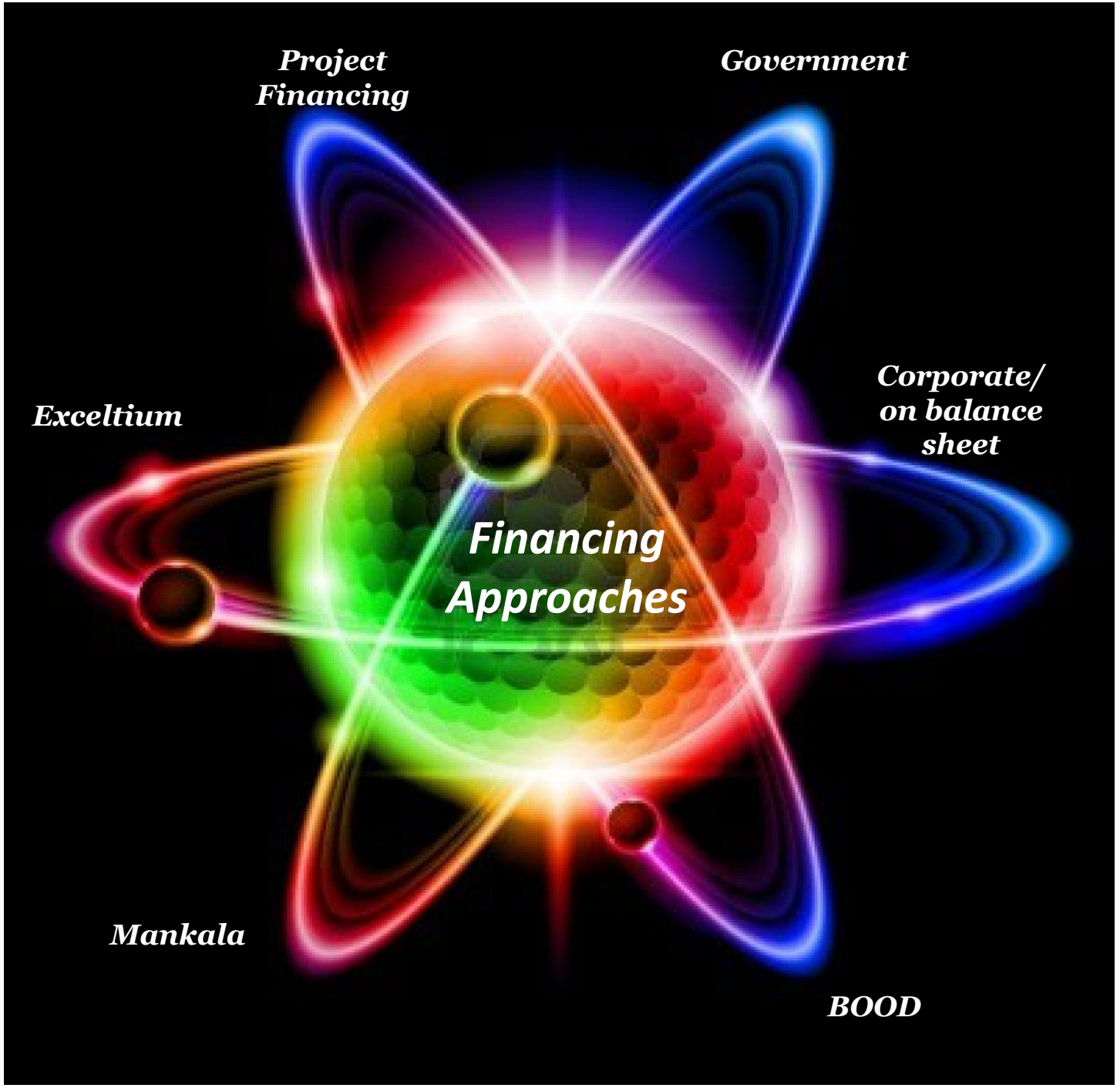
Financing of a Capital Project

NPP Development
Project = Capital Project

- long-term project to build or develop a capital asset
- a capital project is a huge project that costs a lot of money, lasts a long time, and is generally extremely complex
- risk management is key – corporate, legal, financial risks…

Financing methods for nuclear projects

- Nuclear never been “project financed” – no recourse or limited recourse
- Government role remains paramount – host government or exporting government



Characteristics

- Each financing designed to meet the requirements of the particular project and the objectives of the sponsors (shareholders, lenders, governments etc.) – with **megaprojects** this is certainly true
- Project developed through a separate (usually single purpose vehicle) financial and legal entity(ies)
- If a PF type financing the debt of the project company is often completely separate (for balance sheet purposes) from the shareholders direct obligations
- The sponsors seek to maximise the debt to equity leverage of the project and the amount of debt is linked directly to the cashflow potential of the business, and to a lesser extent the liquidation of the project and its assets
- The sponsors guarantees (if any) to the lenders generally do not cover all the risks involved in the projects
- Project assets (including contracts) and the revenues are generally pledged as security for the lenders
- Firm contractual commitments of various third parties (construction contracts, suppliers, off-takers and governments) represent significant components of the credit support for the project.

Funding Mechanism (Revenue support not PPA)

CfD	RAB
Energy Act 2013	The Government's Nuclear Energy (Financing) Act (NE(F)A) implements the Regulated Asset
Financial Hedging Agreement for low carbon projects	Base (RAB) model to encourage and facilitate investment in new nuclear projects
Eligible Generator under the regulations	A nuclear company is a "relevant licensee nuclear company" if—the company's electricity generation licence contains modifications made under section 6(1) of the NE(F)A, and licence from an economic regulator to charge a regulated price to consumers in exchange for providing the infrastructure in question.
Contract with LCCC	Revenue collection contract.
LCCC pays or receives balancing payments being the difference between the strike price and the reference price	Charge is set by the independent regulator (OFGEM), - allowable and disallowable costs.
Strike Price reopeners very limited – contingent equity – construction gain share	Cap on Capital Costs in the License
Equity gain share limiting returns	
Risk of selling power remains with project	Risk of selling power remains with project
Very few risk sit with LCCC	Government Support Package and risk sharing
No payments during construction – interest accrues increasing overall cost of capital – problem for nuclear due to long construction period & Construction Gain Share	Payments during construction of the debt interest. Shareholder loan interest still to be determined
Balancing payments during operation	Balancing payments during operation.

Discussion

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Fiona is an Energy & Infrastructure specialist with over 30 years of experience encompassing nuclear, oil & gas, renewables and thermal power. She is often involved in large-scale energy and infrastructure projects particularly the development, structuring, international regulatory development and compliance, licensing and financing.

Fiona is described as having a unique blend of skills having worked on global nuclear projects for over 20 years. Her skill include strategic and policy advice and regulatory expertise, deal structuring and financing, project and asset management, claims and disputes. She is recognised as an expert in the development and financing of nuclear projects by the International Atomic Energy Agency (IAEA) (and IFNEC) and has served as a designated expert for the IAEA and chaired technical meetings: on the financing, development and structuring of nuclear projects; and on decommissioning and waste management issues.

In January 2018 she was appointed Chair of the Expert Finance Working Group on Small Reactors by BEIS and produced the Market Framework for Financing Small Nuclear in September 2018. She continues to work on low carbon projects around the globe, including the deployment of large and small reactors.

Fiona is Chief Executive Officer of consulting firm – FiRe Energy.

She is also a Non-executive Director of the Nuclear Industry Association an Ansaldo Nuclear. She is also a UK representative and Co-Chair of the EMWG for the GIF.

Previously, Fiona was Partner and Global Head of Nuclear Services at law firm Norton Rose Fulbright before moving away from the law to join PriceWaterhouse Coopers (PwC) as the Global Nuclear Lead for Capital Projects and Infrastructure.

Following PwC Fiona became an Executive Partner and Board Director in Atlantic SuperConnection, a Non Executive Director and then a Strategic Advisory Board Member at the Nuclear Industry Association and Chaired th Expert Finance Working Group on Small Reactors before establishing FiRe Energy Limited.

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